

Drs. Leyva's and Joseph's Responses to Questions

Anonymous Attendee 01:30 PM

How can mentors who are not underrepresented in their mentees field better serve their underrepresented mentees? And is there any additional advice for those mentors that are overseeing high education endeavors such as Masters/PhDs.

NMJ: First, understand what the issues are related to the underrepresentation. Go back and view the slides around how understanding whiteness and privilege MUST be interrogated. Ask oneself, "how am I DISRUPTING oppression and whiteness in my field?" Next, talk to your mentee about their experiences in the field/program. Be proactive! Don't wait for the students to come to you--go to them! Check in to make sure that students are getting publishing/presentation opportunities, understand letters of recommendation for future jobs (especially academe).

David Burgess 01:31 PM

Black women do well in biology; how do you explain this success?

NMJ: What I said is that there is not as much underrepresentation in the biology undergraduate majors like chemistry, mathematics, physics, etc.

Ashley University of Washington 01:33 PM

I am a black woman getting her PhD. I am trying to bridge the gap between my science research and science communication. Specifically health disparities and environmental racism. How do you recommend I do so?

NMJ: Ashley, we have connected! Find mentors and other Black women who you admire doing this work. I already recommended joining #Vanguard STEM.

Anonymous Attendee 01:34 PM

How best can students who are not women of color support their peers in the classroom?

LAL: Support in what context? We first must honor the agency of women of color and other historically marginalized students in STEM higher education who may not be actively seeking support from their peers. Making an assumption that these individuals are in need of support from their peers who hold dominant or better represented identities can run the risk of reinforcing deficit views. At the same time, racialized and gendered inequities of access to content and faculty support are present realities in these STEM educational contexts. Peer support, therefore, can come in the form of inviting women of color and other historically marginalized students to study group opportunities, share resources for exam preparations, etc.

Jose Morales Collazo 01:34 PM

How do you communicate and express your position and feelings as a person of color in STEM in regards to Microaggression directed at you when power dynamics are so present in academia?

LAL: Find critically-minded advocates and sponsors at your institution who hold positional forms of power. They are there. They might not be in your program area or department, but they can be in and outside of your college/university. These individuals do not necessarily have to be people of color, though they often are more readily able to deeply understand your personal experience of grappling with microaggressions. Be mindful of the tax placed on faculty members of color who are committed to ensuring success for students from historically marginalized communities, but are often one of the few racially minoritized members of STEM faculty across programs and departments. The tax of other-mothering for Black women and women of color broadly in the academy is a real thing!

Anonymous Attendee 01:34 PM

Thanks so much for putting your time and energy in this talk. In this talk, you have touched upon the topic of “crab mentality” — while this comes from institutionalized racism / exclusion — and we know we need to tackle these structures — how can we tackle the issue of crab mentality AMONGST us NOW?

NMJ: I think we need to do our best to dismantle or disrupt this mentality by modeling dispositions and actions that are representative of “paying it forward” and “supporting each other.” Those types of attitudes will always be there. Rather than getting caught in this issue, be sure that you do not engage in the crab mentality. I would also offer that for those you have influence with, share what is problematic about this mentality. I would use readings or literature that show what this does to a people and to help individuals understand its connection to whiteness and white supremacy. This is not easy.

Anne Murdaugh 01:35 PM

Do you have any specific advice for small undergraduate colleges, which have small populations but a high level of interaction?

NMJ: The advice is the same. Get together in small groups and start reading, watching documentaries, hosting community members/scholars/students. Use journal writing prompts to engage in critical reflection. Set SMART goals. Come back to those goals and evaluate.

Anonymous Attendee 01:35 PM

Should white academics step down to make room? Or stay in academic positions of power to work for change?

NMJ: Both! Context matters and it is complex. So my answer is that it depends. Overall, I think both things should happen. It is not the responsibility of folks of color to teach white people about these things; at the same time, decisions should not be made without the consideration of people of color; especially in the name of equity efforts and initiatives.

Anonymous Attendee 01:36 PM

How can a biology department go about creating affinity groups for black women? Our students are busy and working and it is difficult to get students to engage in groups outside the classroom.

LAL: Carve structured opportunities for students to connect during class time. These opportunities do not necessarily have to be like an affinity group that they would attend on the student affairs side of the university. Rather, biology faculty can incorporate structured groupwork opportunities for students to work together on a set of questions specific to a lesson or tackle a study guide for an upcoming exam. Be sure that these groupwork opportunities are designed with participation norms that challenge racialized and gendered status of STEM ability, which can impede Black women and other historically marginalized individuals' opportunities to contribute and connect with group members. In doing so, you are not requiring students to meet outside of class while creating opportunities to forge meaningful peer connections (both within-group and between-group) in working together on a shared learning objective.

Lisette Torres-Gerald (she/her) 01:36 PM

Audre Lorde said that the master's tools will never dismantle the master's house. How do we reconceptualize STEM given it's inherent focus on Whiteness/maleness?

NMJ: We discussed some of this in the talk. It is a BIG question. We need different people at the table--critically conscious STEM faculty--that won't happen until we can get more critically conscious people in the PhD pipeline and into academia (I am speaking about the higher education context). This is why diversity is so important. We need different ideas and thinking at the table. But until these folks get into positions of power, it will continue to be an uphill battle. But Derrick Bell (father of CRT) said that we must keep trying.

Lisa Mangiamele 01:37 PM

Black and other women of color on my majority-white campus report challenges with class group work. What would you recommend for instructors to do to help Black women feel supported and able to succeed in collaborative STEM spaces?

NMJ: Can you give an example? Are students not choosing women of color to be on their collaborative teams? Are women of color not being viewed as valued in terms of their contributions to group work? I think faculty need to think deeply about the purpose of group work. If they have not scaffolded for folks what this looks like, expect disaster every time. It does not matter that these are adults in college. If people have not been made aware of how they are in the world and with others, they will do what they know. For example, if a student is used to dominating in groups and taking over, that is what that person will do until it is brought to their attention in a meaningful way.

Anonymous Attendee 01:38 PM

How does the inequality in mathematics majors for black women affect undergraduate retention rates compared to higher level mathematics education retention rates (such as graduate school)?

NMJ: I think when Black women make it to the level of a masters or doctorate degree, their retention is better. They are probably very strong in knowing that they want to accomplish such a goal (no small feat for anyone--a doctorate in math). They may have developed serious coping and navigating strategies to survive and/or thrive at this level. You can look at the NSF report to make some comparisons.

Tsafir Mor 01:42 PM

What do you mean by “in ability to do math”? An inherent issue? A perception? I don’t buy anyone’s inherent inability to do math (except for extremely few people with organic dyscalculia). We need to fight the perception not cancel math.

LAL: I am unsure in what context during the presentation you heard this phrase, Tsafir. I also hold the perspective of challenging ideas that mathematical ability is innate because, when they collide with racialized and gendered patterns of achievement, they unfairly position Black women and other individuals minoritized at intersections of race and gender as innately lacking mathematical ability. Danny Martin’s article, *Researching Race in Mathematics Education* (2009), refers to this idea as the social construction of a “racial hierarchy of mathematics ability.” In my work on whiteness in mathematics education (see Leyva, 2017 and Leyva, in press in the *Journal for Research in Mathematics Education*), I describe how this produces unique forms of labor for racially minoritized women who must contend with uncertainty if they are being negatively judged by others for racialized and/or gendered reasons.

Missy Cosby (she/her) 01:42 PM

One of the spaces where much harm is done for Black women in STEM is in group work. Was there evidence of group work practices being harmful in your work?

LAL: Hi, Dr. Crosby! In the *Journal for Research in Mathematics Education (JRME)* article reporting on Black women’s counter-stories of navigating mathematics education as a white, patriarchal space, Sierra (African American woman) commented on moments of not being asked for her ideas or input during mathematical groupwork, which left her wrestling with uncertainty if this was due to racialized and/or gendered perceptions of her ability. My perspective is that groupwork in mathematics education is not inherently harmful. However, the ways that STEM faculty structure or do not structure groupwork for inclusive participation and mitigate construction of racialized-gendered status of ability are what often the root of harmful experiences. In the *JRME* article, I conclude with implications for designing groupwork opportunities to broaden equitable opportunities for Black women’s participation and protect their identities in mathematical spaces.

Anonymous Attendee 01:43 PM

Dr. Joseph, you mentioned micro, meso, and macro level approaches to transforming academic spaces, and how the real issue is transforming systems and structures at the macro level. As an early-career person, how do I prioritize actions that contribute to macro-level transformation?

NMJ: Co-conspirators at this point in your career. You should get to know the folks that are full professors and have power. They also have to care about these issues of course. Sometimes, these folks may be outside of your department or even college. Find them. You can contribute “thinking,” but they need to be the people that are doing the actual work. IF you feel strong within yourself about tenure and you have less value in that process, then push yourself. I just want you to think about all of the complexities of this thing called tenure and how to be strategic to participate in things you care about, but in strategic ways.

Jose Morales Collazo 01:45 PM

How do you communicate and express your position and feelings as a person of color in STEM in regards to Microaggression directed at you when power dynamics are so present in academia?

See Dr. Leyva's response to **Jose Morales Collazo**.

smithpd@iu.edu 01:45 PM

Could you comment on the issue of culturally relevant pedagogy and content such that Black women in STEM would have a greater appreciation for pursuing and persisting in STEM?

NMJ: Let's be careful here not to essentialize. What is important is to get to know individual students. This is a sure way to target what students need for THEM! We need instructors to have a disposition of excellence for Black women in STEM. Expect the best. Expose them to the best. Unpack the things we take for granted or may be hidden. Make the opaque, plain. For example, applying to graduate school or what they need to be in position to be competitive. Are you inviting Black women to co-author? Are you inviting them to speak? Are you working in solidarity with them to see all possibilities? These are questions to ponder.

Anonymous Attendee 01:46 PM

Follow up on that, though- what if you're in a space where you need to advocate for groups that you're not part of, to a bunch of people who are not in that group either?

NMJ & LAL: We don't think we fully understand this question. Could you provide an example? It sounds similar to the question raised by Anonymous Attendee (same person) at the 1:34 mark. If this is in the same spirit of that question, see Dr. Leyva's response above.

Anonymous Attendee 01:46 PM

How can I, as a white male student, help to foster a sense of belonging and community for black women within my STEM major?

NMJ: The best thing that you can do is to turn within and get to know yourself and how you have either disrupted or supported intersectional racism and other forms of oppression in mathematics. Interrogate your own privileges. Read *White Rage* and *White Logics*. There are several books out now that are written by white people unpacking their journeys, connecting it to history, economics, etc. That is first. Then, start getting to know the Black women. Not in a cheesy way, but a real way. Invite one for tea. State right up front that you are working on yourself and trying to learn more about what you can do. Don't pretend. Be transparent. Invite the Black woman to maybe share her experiences. Don't evaluate that experience, just affirm it. You will begin to feel different and will know good next steps to take.